THE THIRTY-SEVENTH ANNUAL REPORT

OF THE

BOARD OF DIRECTORS

OF THE

ZOOLOGICAL SOCIETY

OF PHILADELPHIA.

(INCORPORATED MARCH 21ST, 1859.)

READ AT THE ANNUAL MEETING OF THE MEMBERS AND LOAN-HOLDERS OF THE SOCIETY.

APRIL 22d, 1909.

PHILADELPHIA:
PRESS OF ALLEN, LANE & SCOTT,
1211–1213 Clover Street.
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(FAIRMOUNT PARK.)

REPORT

OF THE

BOARD OF DIRECTORS.

PHILADELPHIA, April 22nd, 1909.

The Board of Directors of the Zoological Society of Philadelphia presents to the members and loanholders its thirty-seventh annual report, for the year ending February 28th, 1909.

GENERAL AFFAIRS AND FINANCES.

The number of members at the close of the year was:—

Annual members	202
Life members	1,284
Corresponding members	6
Honorary members	14
Perpetual members	250
Junior members	56
Total members	1,812

The following is a report in detail of the admissions and receipts for the year:—

Adults (paying at gates)	120,619
Children (paying at gates)	35,397
Members (including life and annual members, loanholders' annual, and complimentary annual tickets)	941
Loanholders' single tickets	9,706
Free admissions (charitable institutions, donors' tickets, &c.)*	4,455
Coupon tickets	295
Excursion tickets	3,417
	174,830

* In addition to these, 175,000 tickets were issued to the Board of Education, for the admission of pupils of the Public Schools.

Monthly Record of Receipts from Admissions for 1908–1909 with corresponding account for 1907–1908.

Month	1907–1908	1908–1909	Comparison	
March......	$1,896 00	$1,498 40	Decrease....	$397 60
April.......	2,018 85	2,090 95	Increase....	72 10
May.......	4,010 05	2,544 30	Decrease....	1,465 75
June.......	3,535 95	2,411 30	"	1,124 65
July.......	4,977 15	2,511 15	"	2,466 00
August.....	6,141 45	4,318 85	"	1,822 60
September..	4,207 35	3,318 70	"	888 65
October....	2,790 30	2,681 15	"	109 15
November..	1,638 65	1,369 40	"	269 25
December..	1,339 45	816 30	"	523 15
January....	990 85	767 70	"	223 15
February...	684 05	1,178 35	Increase....	494 30
	$34,230 10	$25,506 55	Decrease....	$8,723 55

The large reduction in admission receipts will be noted. It is, however, not more than was to be expected in a season of such industrial depression, and there are already hopeful indications that improvement will mark the year now opening.

The ordinary, current expenses of maintaining the Gardens are on a basis of such close economy that they will not bear material reduction in a period of stress, but a considerable lessening in the total outlay of the year was effected by postponing all new construction that had not been already provided for, and all repair work not of immediate urgency. By these means the net deficit has been kept down to a sum relatively insignificant, but which can not be continued unless the improvement hoped for in the coming year shall occur.

The Society suffered a severe loss on January 23d in the death of its President, Charles Platt. A special meeting of the Board was held on January 25th, with a large attendance,

and the following minute was ordered to be placed upon the records:—

"It is with no usual sorrow that the Directors of the Zoological Society have learned of the death of their President, Charles Platt.

"Mr. Platt became a member of the Board in March, 1886, and had served the Society as its President since April, 1890—a term longer than that filled by any one of those who preceded him.

"Throughout this period his breadth of view and wise judgment were ready at all times to serve his genuine interest in the work of the Society, and no call ever found him unready to act in its behalf. Wisely conservative, but yet more wisely ready for progress when need arose for change, his term was marked by important events in the history of the Society, to each of which his energy and influence were directed as a prime element in their success.

"More than the loss of a President, the Board has lost a Chairman of genial gifts and rare courtesy, and a friend whom each member will preserve in memory with respect and affection."

The Gardens.

The number of specimens exhibited was as follows:—

Mammals	487
Birds	952
Reptiles	1,012
Amphibians	75
	2,526

Considerable additions in species new to the collection were secured, the number of these being fifty-seven:—

Semnopithecus rubicundus. Maroon Monkey.
Hab., Borneo.

Macacus rufescens. Reddish Macaque.
Hab., Malay Peninsula.

Perodicticus potto. Potto.
Hab., West Africa.
Loris gracilis. Slender Loris.
Hab., Southern India, Ceylon.
Galago senegalensis. Senegal Galago.
Hab., West Africa.
Suricata tetradactyla. Suricate.
Hab., South Africa.
Mephitis mesomelas. Texas Skunk.
Hab., Oklahoma.
Ursus dalli. Yakutat Bear.
Hab., Alaska.
The male of a pair of young bears purchased in August was captured on June 13th at Pavloff Bay, on the peninsula of Alaska, the female having been secured at Stepavak Bay, some miles to the northeast, on May 21st. As the characters to which the somewhat questionable division of the big Alaska bears into species and subspecies is due, lie in the skull, the assignment of living cubs is uncertain. Pavloff Bay being the type locality of *Ursus dalli gyas* Merriam, it is probable that our specimens belong to that form, one of the largest of these huge bears and doubtfully distinct from *U. dalli.*
Sciurus rufiventer. Western Fox Squirrel.
One specimen of this fine squirrel, from the Mississippi Valley, was presented on April 9th by Mr. Charles A. Valadien, of Philadelphia.
Perodipus richardsoni. Richardson's Kangaroo Rat.
Hab., Oklahoma.
Connochætes albojubatus. White-bearded Gnu.
A pair of these antelopes, native to equatorial East Africa, was purchased on June 5th.
Toxostoma curvirostra. Curve-billed Thrasher.
Hab., Texas and Mexico.
Melanotis cærulescens. Blue Mockingbird.
Hab., Mexico.
Pycnonotus leucotis. White-eared Bulbul.
Hab., Southern Asia.
Euphonia hirundinacea. Bonaparte's Tanager.
Hab., Central America.

Buarremon brunneinuchus. Chestnut-capped Tanager.
Hab., Central America.
Pyranga rubra. Summer Tanager.
Hab., Maine to Guiana.
Penthetria ardens. Red-chested Whydah Bird.
Hab., Africa.
Urobrachya axillaris. Red-shouldered Whydah Bird.
Hab., Africa.
Spermestes nana. Dwarf Finch.
Hab., Madagascar.
Pytelia melba. Crimson-faced Waxbill.
Hab., Africa.
Estrilda granatina. Blue-fronted Waxbill.
Hab., Africa.
Zamelodia melanocephala Black-headed Grosbeak.
Hab., Western United States.
Sporopipes squamifrons. Scaly-fronted Finch.
Hab., Africa.
Passer arcuatus. Cape Sparrow.
Hab., Africa.
Passer montanus. Tree Sparrow.
Hab., Europe.
Carpodacus m. mexicanus. Mexican House Finch.
Hab., Mexico.
Melophus melanicterus. Crested Black Bunting.
Hab., India.
Emberiza luteola. Chestnut-backed Bunting.
Hab., Asia.
Callothrus robustus. Red-eyed Cowbird.
Hab., Texas to Panama.
Icterus cucullatus. Hooded Troupial.
Hab., Texas and Mexico.
Corvus splendens. Indian Crow.
Hab., India, Ceylon.
Corvus corone. Carrion Crow.
Hab., Europe.
Corvus frugilegus. Rook.
Hab., Europe.
Ptilonorhynchus violaceus. Satin Bower Bird.
Hab., Australia.

Otocorys elwesi. Elwes' Horned Lark.
Hab., India to China.
Pitta brachyura. Short-tailed Pitta.
Hab., India, Ceylon.
Bucorvus abyssinicus. Abyssinian Ground Hornbill.
Hab., Africa.
Anthracoceros coronatus. Crowned Hornbill.
Hab., India, Ceylon.

The accession of this and the preceding species in May enabled the Society to exhibit in adjoining cages four of the largest and most striking species of these remarkable birds.

Pœocephalus gulielmi. Jardine's Parrot.
Hab., West Africa.
Agapornis personata. Brown-faced Love Bird.
Hab., East Africa.

Two love birds, from an unknown locality, purchased in May, have been referred with some doubt to this rare and little known species, their correspondence with Reichenow's description and plate being fairly close.

Bubo maculosus. Spotted Eagle Owl.
Hab., South Africa.
Buteo augur. Augur Buzzard.
Hab., East Africa.
Aquila rapax. Tawny Eagle.
Hab., Africa.
Vultur kolbi. Kolb's Vulture.
Hab., Africa.
Carpophaga ænea. Bronze Fruit Pigeon.
Hab., India.
Numida coronata. Helmeted Guinea Fowl.
Hab., Africa.
Cyrtonix montezumæ. Massena Quail
Hab., Southwestern United States and Mexico.
Ibis melanocephala. Black-headed Ibis.
Hab., Southeastern Asia.
Casuarius uniappendiculatus. One-wattled Cassowary.
Hab., New Guinea.
Casuarius papuanus. Papuan Cassowary.
Hab., New Guinea.

Crocodilus niloticus. Nile Crocodile.
Hab., East Africa, Syria.

Ostolæmus tetraspis. Broad-fronted Crocodile.
Hab., West Africa.

Cinosternum louisianæ. Baur's Mud Turtle.
One specimen from Sabine Pass, Texas, presented in April by Captain W. F Berg.

Heloderma horridum. Sonoran Heloderma.
Hab., Sonora.
A specimen of this rare venomous lizard, thirty-two inches long, was received in July, from Alamos, Sonora.

Liophis andræ. Cuban Black Snake.
Hab., Cuba.

Leptodactylus pentadactylus. Red-spotted Frog.
Hab., South America.

Other arrivals of some note were a male tapir, presented by Mr. Harry Nuding, of Para; a male aoudad, received in exchange; a crocodile from Jamaica, presented by Mr. Fred. Holyeffel, of Philadelphia; a young male chimpanzee, purchased in July; a Javan adjutant; and a very large pair of jaguars from Paraguay, purchased in October.

The following animals were bred:—

2 pig-tailed macaques (*Macacus nemestrinus*) ♂ July 25; ♂ February 6.
1 lion (*Felis leo*) ♀ September 22.
9 Texas skunks (*Mephitis mesomelas*) 2 ♂, 3 ♀, May 7; 2 ♂, 1 ♀, July 1.
4 white-nosed coatis (*Nasua narica*) 2 ♂, 2 ♀, June 29.
2 black bears (*Ursus americanus*), January 31.
4 hog deer (*Cervus porcinus*), 2 ♀, April 6, 1 ♀, April 29; 1 ♂, January 10.
1 Japanese deer (*Cervus sika*), ♀, May 23.
1 fallow deer (*Cervus dama*), ♀, June 23.
1 American elk (*Cervus canadensis*) ♂, August 16.
1 red deer (*Cervus elaphus*), ♀, June 15.
1 eland (*Taurotragus oryx livingstonii*), ♀, March 31.
4 Indian antelopes (*Antilope cervicapra*) ♀, March 27; ♂, April 11; ♂, October 7; ♀, October 24.
1 Himalayan thar (*Hemitragus jemlaicus*), ♂, July 9.

2 Bactrian camels (*Camelus bactrianus*) ♀, March 14; ♂, May 7.
15 prairie dogs (*Cynomes ludovicianus*) May.
2 agoutis. Hybrids between *Dasyprocta azaræ* ♂ and *D. prymnolopha* ♀. August 10.
1 red kangaroo (*Macropus rufus*), December 15.
7 wild turkeys (*Meleagris gallopavo*), May 27.
5 Reeves pheasants (*Phasianus reevesi*), May 11.
1 golden pheasant (*Chrysolophus pictus*), May 26.
4 mute swans (*Cygnus olor*), June 1.
3 common mallards (*Anas boschas*), June 17.
3 black mallards (*Anas obscura*), June 17.
8 wood ducks (*Aix sponsa*), July.
23 common garter snakes (*Thamnophis sirtalis*), July 6.
12 Marcy's garter snakes (*T. marciana*), August 26.
18 Fairie's garter snakes (*T. proximus*), September 5.

The more important deaths were: a serval which had been in the collection since March 15, 1901; a caracal, purchased June 8, 1899; a clouded leopard purchased in 1904; a male Livingstone's eland which died of acute indigestion; a male North African ostrich; and Bolivar, the huge Indian elephant presented by the late Adam Forepaugh on December 25, 1888. This loss is much regretted, as he had been for so many years a familiar feature at the Gardens. In recent years the temper of this notoriously dangerous animal had much improved, but at no time was it safe to trust him. His skin has been mounted by the Academy of Natural Sciences and the skeleton will shortly be placed beside it.

The ostrich house, begun in 1907, was completed by the installation of the heating plant and erection of the outside fences, and was opened in June, with a typical collection of struthious birds.

The cage for anthropoid apes, in the Monkey House, has also been completed, and at present is occupied by a young male chimpanzee of unusual activity and interest.

A new and more secure guard rail has been placed in front of the cages in the Carnivora House.

The system begun in March, 1905, of testing with tuber-

culin each monkey received at the Garden before allowing it to pass the quarantine room, has resulted in success beyond our early hopes. There has been no death from tuberculosis among the exhibition series in the Monkey House since October 16, 1907. This result justifies the belief that while it is of course possible that a sporadic case of the disease may now and then occur in the building, it can be kept in check, and that the heavy losses formerly met with from this cause are at an end. Furthermore, the monkeys now on exhibition present an appearance of vigor and good condition strongly contrasting with that usually observed. Unfortunately the frequent handling of each animal necessary in the exact application of the subcutaneous test, precludes its use generally through the collection. With care in the employment of hygienic measures, however, the risk of communication from a single case has been greatly lessened. Indeed, it will be seen from the report of the Pathologist that but three cases occurred during the year among mammals, which originated in the Garden.

By this practical result alone, without regard to other investigations now in progress, the establishing of the Pathological Laboratory is fully justified. It is not out of place here to suggest that if this Laboratory could be specially endowed, even if only to the amount of several thousand dollars a year, valuable additions to general knowledge of disease would be the return.

The thanks of the Board are due to all whose friendly interest in the Gardens has been manifested.

By order of the Board,

ARTHUR ERWIN BROWN,
Secretary.

INCOME AND EXPENDITURES.

For fiscal year ending February 28th, 1909.

INCOME.

Membership dues	$885 00	
Admission receipts	25,506 55	
Rents at Gardens	250 00	
Interest	1,680 78	
Sale of animals	210 00	
Sale of guides	465 15	
Goat and donkey rides	1,190 25	
Sundry receipts	1,610 97	
Received from the City of Philadelphia through the Commissioners of Fairmount Park	25,000 00	
		$56,798 70

EXPENDITURES.

(Exclusive of Permanent Improvements.)

Salaries and wages	$23,892 98		
Office expenses	421 81		
General expenses	25,820 90		
Purchase of animals	7,292 40		
		$57,428 09	
Balance to debit of profit and loss		629 39	
			$56,798 70

CAPITAL.

For fiscal year ending February 28th, 1909

RECEIPTS.

Life Membership	$50 00	
Received from the City of Philadelphia through the Commissioners of Fairmount Park	5,000 00	
		$5,050 00

EXPENDITURES.

Completion of ostrich house	$2,137 50		
Interior railing at carnivora house	603 85		
Cage for anthropoids	635 00		
Asphalt walks	2,258 65		
		$5,635 00	
Balance, being excess of expenditures over receipts of capital		585 00	
			$5,050 00

HENRY T. COATES,
Treasurer.

Audited and found correct, March 10th, 1909.
STOCKTON BATES & SON, Auditors.

Classified List of Autopsies Made During the Year in the Pathological Laboratory.

These were made up of the following groups, and the numbers which precede the names of orders indicate how many of each have come to autopsy.

20 Primates.	6 Lemures.	34 Carnivora.	6 Rodentia.
24 Ungulata.	7 Marsupialia.	1 Proboscidea.	
Total mammals, 98.			
64 Passeres.	7 Picariæ.	37 Psittaci.	7 Striges.
5 Accipitres.	2 Columbæ.	13 Gallinæ.	4 Alectorides.
24 Anseres.	3 Struthiones.	3 Fulicariæ.	
Total birds, 169.			
6 Squamata.	2 Crocodilia.		
Total reptiles, 8.			
Total animals examined, 275.			

The following list shows the number of cases of the principal subjects making up the pathological diagnosis. In some cases contributory causes or concomitant results are also listed for purpose of record, but for the most part the numbers opposite the various animals represent a pronounced condition believed to be of importance in the death of the animal.

Diseases of the Gastro-intestinal Tract.

Pharyngitis	1 Porcupine.	1 Alligator.	
Proventriculitis	7 Birds.		
Proventricle, worms in	24 Birds.		
Proventricle, perforation of	1 Bird.		
Gastritis	6 Birds.	1 Peccary.	1 Springbok.
	1 Coati.	1 Eland.	2 Monkeys.
	2 Cobras.	1 Opossum.	1 Kangaroo.
	1 Ocelot.	2 Bassaris.	1 Lynx.
	2 Alligators.	1 Cat.	1 Serval.
	2 Wolves.	1 Zebra.	1 Hyena.
Ulcerative gastritis	1 Springbok.	1 Leopard.	1 Wolf.
Stomach, inpaction of	3 Birds.		
Acute indigestion	1 Marmoset.	2 Lemurs.	1 Cat.
	1 Cavy.	1 Monkey.	
Thickening of pyloric mucosa	1 Wolf.		
Acute duodenitis	1 Springbok.	1 Eyra.	
Duodenal ulcers	1 Wolf.		
Papillomatous growth in duodenum	1 Bird.		
Rupture of duodenum	1 Bird.		
Intestinal indigestion	1 monkey.		
Enteritis	42 Birds.	2 Kangaroo.	1 Llama.
	1 Leopard.	1 Fox.	2 Deer.
	3 Cats.	1 Bear.	6 Monkeys.
	1 Elk.	2 Wolves.	1 Cobra.
	1 Thar.	1 Ocelot.	2 Alligators.
	1 Tapir.	2 Raccoon.	1 Caracal.
	1 Lemur.	1 Hyena.	

Ileitis	1 Leopard.		
Gangrene of intestine	1 Phalanger.	1 Boa.	
Rupture of intestine	1 Boa.		
Typhlitis	1 Monkey.		
Intestinal toxemia	1 Marten.		
Colitis	1 Capromys.	1 Leopard.	1 Eyra.
	2 Cats.	1 Monkey.	1 Camel.
	1 Coati.		
Colon impaction	1 Bandicoot.	2 Deer.	
Peritonitis	5 Birds.	2 Elk.	1 Kangaroo.
	1 Monkey.	1 Raccoon.	1 Beaver.
Peritoneal adhesions	1 Springbok.		
Necrosis of omentum	1 Raccoon.		

Diseases of the Circulatory System.

Aorta, atheroma of	1 Bird.	1 Cat.	
Aorta, aneurysm of	1 Cat.		
Acute dilation of heart	1 Zebra.		
Edema of heart muscle	1 Monkey.	1 Deer.	1 Elk.
Endocarditis	1 Leopard.		
Fatty infiltration	1 Bird.		
Hemorrhage into pericardium	1 Elk.		
Myocarditis	1 Peccary.	1 Tapir.	1 Bird.
	1 Monkey.	1 Thar.	1 Elephant.
Pericarditis	2 Birds.	1 Kangaroo.	3 Monkeys.
	1 Wolf.	2 Leopards.	

Diseases of the Liver.

Abscess	1 Bird.	1 Monkey.	1 Red Brocket.
Cirrhosis	1 Bird.	1 Deer.	1 Red Brocket.
Cloudy Swelling	1 Bird.	1 Kangaroo.	1 Coati.
	2 Monkeys.	1 Badger.	1 Cat.
Congestion	1 Llama.	1 Deer.	1 Leopard.
	1 Alligator.	1 Hyena.	
Cystic adenoma of bile ducts	1 Fox.		
Fatty change	11 Birds.	1 Capromys.	1 Bandicoot.
	1 Eyra.	1 Fox.	1 Monkey.
	1 Raccoon.	1 Iguana.	1 Opossum.
Focal necrosis	3 Birds.	1 Cobra.	
Hematoma	1 Leopard.		
Hepatitis	7 Birds.	1 Elephant.	1 Monkey.
Passive congestion	5 Birds.	1 Peccary.	1 Fox.
	1 Monkey.	1 Elk.	1 Kangaroo.
	1 Eyra.		
Pigmentation	4 Birds.	1 Iguana.	1 Cobra.
	1 Deer.	1 Alligator.	1 Boa.
Rupture	1 Bird.		
Thrombosis of portal veins	1 Bird.		

Diseases of the Kidney.

Abscess	1 Bird.	1 Red Brocket.	
Anemic infarct	1 Monkey.		
Cloudy swelling	1 Fox.	1 Coati.	1 Cat.
	1 Monkey.		
Congestion	1 Eyra.	1 Deer.	1 Leopard.
	1 Hyena.	1 Alligator.	
Epithelial necrosis	1 Leopard.		
Fatty change	1 Raccoon.	1 Ocelot.	

Nephritis:—			
Acute	15 Birds.	1 Monkey.	
Hemorrhagic	1 Serval.		
Parenchymatous	1 Elephant.		
Toxic	2 Lynx.		
Chronic	1 Bird.	1 Springbok.	1 Wolf.
	1 Monkey.	1 Deer.	1 Red Brocket.
Subacute, diffuse, and not specifically determined	1 Bird.	1 Capromys.	1 Opossum.
	1 Bandicoot.	1 Badger.	1 Caracal.
	1 Wolf.	1 Porcupine.	2 Monkeys.
	1 Leopard.		
Passive congestion	4 Birds.	1 Elk.	1 Peccary.
	1 Kangaroo.		
Petechial hemorrhages	1 Monkey.		
Pigmentation	1 Deer.		

Diseases of the Respiratory System.

Abscess of lungs	1 Raccoon.		
Anthracosis	1 Bird.		
Aspiration of food	1 Eland.		
Bronchitis:—			
Acute catarrhal	3 Birds.	1 Fox.	
Chronic	1 Leopard.		
Purulent	1 Coati.	1 Beaver.	
Bronchiectasis	1 Leopard.		
Chronic pleural adhesions	1 Monkey.	1 Deer.	
Congestion	1 Springbok.	2 Birds.	1 Llama.
	1 Deer.	1 Zebra.	1 Red Brocket.
	1 Boa.	1 Cavy.	1 Spermophile.
Edema	4 Birds.	1 Caracal.	1 Red Brocket.
	1 Monkey.	1 Boa.	1 Spermophile.
	1 Deer.	1 Cavy.	
Emphysema	1 Red Brocket.		
Gangrene	1 Kangaroo.	1 Cat.	
Hemothorax	1 Deer.		
Hemopneumothorax	1 Kangaroo.		
Hemorrhage into lung	1 Bird.		
Hemorrhagic infarcts	1 Badger.	1 Bird.	
Laryngitis	1 Porcupine.	2 Alligators.	
Petechial hemorrhages	1 Monkey.		
Pleurisy	1 Kangaroo.	1 Beaver.	1 Thar.
	1 Leopard.		
Pneumonia:—			
Lobular	3 Birds.	1 Kangaroo.	1 Fox.
	1 Leopard.	1 Bassaris.	
Hypostatic	1 Fox.	1 Kangaroo.	
Septic	1 Coati.	1 Beaver.	1 Raccoon.
	1 Thar.		
Insular caseous	2 Cobras.	1 Boa.	
Fibrinous	2 Alligators.		
Primary carcinoma	1 Bandicoot.		
Rupture	1 Kangaroo.		
Rhinitis	2 Alligators.		

Diseases of the Pancreas.

Hemorrhagic pancreatitis	1 Bird.	1 Llama.
Hemorrhage around pancreas	1 Lemur.	

Diseases of the Lymphatic System.

Spleen:—			
Abscess	1 Bird.	1 Raccoon.	
Acute tumor	14 Birds. 1 Bassaris. 1 Thar.	1 Badger. 2 Monkeys.	1 Lemur. 1 Peccary.
Congestion	1 Bird. 1 Alligator.	1 Deer.	1 Leopard.
Focal necrosis	1 Bird.		
Follicular necrosis	1 Bird.		
Follicular hyperplasia	1 Bird.	1 Marten.	2 Monkeys.
Hemorrhagic infarct	1 Bird.	1 Bandicoot.	1 Iguana.
Hyperplasia	3 Birds. 1 Cobra.	1 Deer.	1 Raccoon.
Pigmentation	1 Elephant.	1 Deer.	1 Alligator.
Lymphatics:—			
Fibrosis	1 Tapir.	1 Elk.	
Lymphatic leukemia	1 Opossum.		
Hyperplasia	1 Raccoon.	1 Monkey.	
Septic lymphadenitis	1 Badger.		

Diseases of the Genital Organs.

Eggbound	1 Viper.	
Mastitis	1 Skunk.	1 Coati.
Metritis	1 Coati.	
Ovarian cyst	1 Civet.	
Purulent orchitis	1 Bird.	
Salpingitis	1 Coati.	1 Raccoon.

Diseases of the Skeleton.

Arthritis	1 Leopard.	
Dislocation of femora	1 Eland.	
Chronic rheumatic tenosynovitis	1 Leopard.	
Osteomalacia	1 Bird.	3 Monkeys.
Osteomyelitis	1 Bird.	
Polarthritis	1 Elephant.	
Rachitis	1 Squirrel.	

Infectious Diseases.

Tuberculosis	11 Birds. 1 Nylghaie.	5 Deer.*	1 Elephant.
Acute infections of unknown etiology	5 Birds.		
Mould infection	8 Birds.		
Infection with:—			
Pneumococcus	1 Monkey.	1 Leopard.	
Micr. tetrogenes	1 Monkey.		
St. enteritis (Libman)	1 Monkey.		
Streptococcus pyogenes	1 Raccoon.	1 Monkey.	
"Sore mouth"	2 Boa.	2 Cobra.	
Infectious leukemia	1 Bird.		

* Four of the five deer were fallow deer of one importation, and one of the lot was badly infected upon arrival. The others undoubtedly are due to this source. They were kept alone to prevent any spread of the disease.

Lepto meningitis	1 Porcupine.		
Rabies	2 Deer.		
Fowl septicemia	1 Bird.		
Pyemia	1 Badger.		

Miscellaneous.

Abscess of jaw	1 Red Brocket.		
Adrenal, hemorrhage into	1 Bandicoot.		
Adrenal, fatty degeneration of	1 Cavy.		
Cellulitis of neck	1 Badger.		
Cellulitis of submaxillary region	1 Monkey.		
Dermatitis	1 Bear.		
Extensive fatty degeneration	1 Serval.		
Fat necrosis	1 Boa.		
General congestion	3 Birds.	1 Spermophile.	
General edema	1 Bird.		
Goitre	1 Hyena.		
Inanition	1 Camel.	1 Antelope.	
Food poisoning	1 Bird.		
Subcutaneous wound of intercostal muscles	1 Deer.		
Subcutaneous emphysema	1 Deer.	1 Bird.	
Traumatism, evidences of	14 Birds. 1 Raccoon.	1 Eland.	2 Monkeys.
Thyroiditis	1 Leopard.		
Phlegmonous inflammation of chest wall	1 Monkey.		

Cause of Death not Determined.

28 Birds.	1 Lemur.	1 Monkey.

Post Mortem Degeneration.

31 Birds.	2 Lemur.	1 Opossum.	1 Fox.
1 Camel.	1 Badger.		

Healthy.

1 Bird.	4 Monkeys.	1 Fox.

Not Posted.

2 Cats.

Parasites.

Air sacs	2 Birds.		
Proventricle	24 Birds.		
Stomach and intestines	10 Birds. 1 Opossum. 1 Fox.	1 Eyra. 1 Cobra. 1 Camel.	2 Cats. 1 Monkey. 1 Zebra.
Cysticercus in liver	1 Capromys.		
Tissues	1 Serval.		
Parasitic cyst in epicardium	1 Lemur.		
Omentum	1 Monkey.	1 Deer.	
Lung	1 Monkey.		

The number of parasites observed has decreased slightly in the past three years. Very few of those listed above have

been determined as far as the species, but the genera represented are not uncommon and are much the same as heretofore.

Those determined are *Filaria gracilis* in the omentum of a monkey; *Cysticercus tenuicollis* in the omentum of a deer and *Spiroptera incerta* in the proventricle of 24 parrots. The number of cases of proventricular worms in the parrots has increased, there having been 18 in 1907 and 21 in 1908. The infection seems to have abated somewhat, however, because 21 of the 24 this year occurred from March 1st to September 1st, 1908, only three having been observed during the second six months of the year. The report upon the ciliated parasite found in the liver of a wolf, read before the Pathological Society in February, 1908, appeared in the University of Pennsylvania Medical Bulletin in February, 1909, under the title "Note on the occurrence of a ciliate (*Opalinopsis nucleolobata*, n. s.) in the liver of a mammal (*Canis latrans*), by Dr. Allen J. Smith and Dr. Herbert Fox."

Tuberculin Reaction in Monkeys.

During the year 30 monkeys and lemurs have been tested by this means. Of these, 27 passed the test and were sent to the Monkey House. One was killed after a suspicious reaction but autopsy failed to reveal any tuberculosis. Two died in the detention room before injection but were not tuberculous.

Out of the 27 passed, 8 have died on exhibition but showed no evidence of tuberculous infection.

It is noteworthy that no infected animal has been received during the year, if one judge by the tuberculin test. Our faith in this test has been strenghtened by the freedom from tuberculosis of those monkeys which have come to autopsy during the year. No death from tuberculosis has occurred in the Monkey House since October, 1907.

Dr. C. Y. White and Dr. Herbert Fox presented to the International Congress for Tuberculosis at Washington in October, 1908, before the section on Tuberculosis in Animals, the results of the investigation upon the use of tuberculin as a diagnostic agent for tuberculosis in monkeys as prac-

ticed at the Philadelphia Zoological Gardens. This paper will appear in the Proceedings of the Congress. The article is accompanied by illustrative charts.

Neoplasms were observed during the year in four of the cases following :

1369. Rabbit-eared Bandicoot.

Primary carcinoma of the lung. A squamous cell carcinoma present in the lung tissue near a bronchus and probably originating from its wall. The masses are in regular acinus arrangement, suggesting an origin from the glands or from the epithelium of the alveoli. They enclose in them masses of necrotic nuclei and atypical mitotic figures. I am inclined to believe that this arises from the epithelium of a bronchus because it is confined to this neighborhood, and I think it can be seen spreading from the wall.

1504. Red Fox.

Cystic adenoma of the bile ducts. A compound cystic adenoma of the bile ducts with moderate fibrous changes in the septa. The cysts are lined with a single layer of columnar epithelium.

1328. Silver Pheasant.

Fibro adenoma of intestinal mucosa. The picture is that of an overgrowth of the glands of the duodenal mucosa surrounded by a more or less clearly defined fibrous capsule and divided by a wide septum into two unequal parts. There is great tortuosity in the overgrowth of the gland acini, but at no point does there seem to be loss of relation between the epithelium and the basement membrane. The fibrous tissue is decidedly cellular, some of the cells being of a very early type.

The following animals deserve some special mention. The Indian elephant "Bolivar" contained a focus of tuberculosis in the upper half of the right superior pulmonary lobe. This is interesting for the reason that he has been in the Gardens twenty-five years, in the same place. As a favorite with visitors he has been fed everything he would take, among which peanuts, broken by the teeth and pieces of bitten cake and pretzel were probably most numerous. He has thus been exposed to many chances of infection from human tuberculosis. Efforts to isolate the tubercle bacilli from the lesions were unsuccessful.

The other cases are of scientific interest. Number 1416 is of value in recording another case of interstitial change in the liver apparently due to the toxines of tuberculosis emanating from the alimentary tract.

1473 Caracal.

Osteochondroma of nose.

1461. Indian Elephant.

The noteworthy features about this animal are the presence of fibro-caseous tuberculosis, a moderate degree of myocarditis with brown atrophy, and parenchymatous nephritis, but no involvement of the aorta or other large vessels. The first mentioned process contained living tubercle bacilli, as shown by inoculation. There was evidence of long standing polyarthritis manifested by fluid accumulations in the joint cartilages, erosion of the cartilage and superficial layers of bone. There were, however, no calcareous deposits.

1494. Common Opossum.—Lymphatic leukemia.

The case here placed on record is one of lymphatic leukemia involving all the viscera. The predominating type of cell is large, with a narrow rim of

protoplasm without granules and a large, deeply staining nucleus. Unfortunately the blood and bone marrow were not studied because the condition was confused with tuberculosis, and we only wish to put on record here the occurrence of leukemia in an opossum.

1416. Fallow Deer.

The liver of this animal presents an interstitial change suggesting the picture of hepatic cirrhosis upon a basis of tuberculosis as described by Stoerk. The interlobular spaces contained many accumulations of epithelioid cells, and in some places a few giant cells. Fibroblasts, while not numerous, are encountered, mostly on the periphery of these epithelioid infiltrates. The normal connective tissue is rather overshadowed by the cellular proliferation, although by no means less than normal in quantity. There has been no proliferation of the bile ducts as yet, and only in a few places does one encounter a slight obstruction of a portal vein.

This seems to be an early stage of the action of the toxin upon the supporting tissue of the liver via the portal vein. The parenchyma shows a fine granular change and in some places minute vacuoles.

1446 and 1466.—Fallow Deer (2) rabies.

Two cases of this infection developed in a pair of fallow deer kept in one enclosure, caused by the bite of a dog. This history seems entirely satisfactory, since no other case appeared in the Gardens. On the morning of July 7th, a small cur dog gained admittance to the enclosure in some way, chased the animals around, and was seen to bite the buck on the nose. The dog was caught and killed but no autopsy was held. The doe died on July 22d (15 days later). It is said to have beaten its head against the fence and to have attacked the buck. The soft parts were missing from the top of the head between the ears. The buck died on the 5th of August (29 days later). The soft parts of the head and the velvet of the horns were torn and bloody.

The autopsies showed nothing of importance except moderate tuberculosis of the mesenteric lymph nodes. The brains were submitted to Dr. John Reichel of the State Live Stock Sanitary Board Laboratory, who kindly consented to make examinations, having suitable facilities at his command. He reported on August 13th that both brains showed microscopical evidences of rabies, and that subdural injections of portions of the brains where the virus is to be found produced the disease in rabbits.

Report upon the Pathological Conditions found among a Number of Specimens of the Female Genital Tract.

Dr. E. A. Schumann.

Raccoon.—Pyosalpingitis.

The specimen consists of the uterus and appendages. The corpus uteri and the cornua are normal. The oviducts, outer folds of the broad ligament and ovaries are the seat of chronic inflammatory change. Oviducts and ovaries are densely adherent to the broad ligaments and to each other. The abdominal ostia of the tubes are closed and the fimbriæ fused.

Microscopically, the oviducts are the seat of a dense round cell infiltration with some hyperplasia of connective tissue, and cloudy swelling of the mucosa with exfoliation of the epithelium. The ovarian structure is intact.

Malayan Civet.—Ovarian cyst.

The ovaries are characteristic of the viverridæ; they are almost spherical, of smooth contour, and partially imbedded in a fold of the broad ligament which curves around to form a portion of the abdominal ostium of the tubes.

The right ovary is 8 mm. in diameter, firm and healthy. The left is transformed into a unilocular smooth thin wall cyst, 2 cm. in diameter. The cyst is oöphoronic in development, involving all of the ovarian structure. On section its inner surface is smooth and glistening, the contents a clear serum.

Specimens from Nervous System of Lynx Showing Lameness of Hind Legs.

By Dr. J. W. H. Rhein.

Portions of the lumbar and cervical enlargements and of the thoracic regions of the cord were stained with hæmalum and acid fuchsin and with thionin.

The pia was slightly infiltrated. There was some cellular infiltration of the anterior septum, and the vessels here showed an increase in the nuclei of the walls, and a slight perivascular infiltration.

The pial infiltration seemed to be equally distributed in the entire circumference of the cord, although perhaps a little more marked at the periphery of the anterior and posterior septa.

The vessels of the gray matter were congested, and the walls of the vessels in most part showed a proliferation of the nuclei. There were a few small hemorrhages into the gray matter, probably agonal.

As compared with the human cord and the cords of monkeys, antelopes and dogs, there was an unusually large number of glia nuclei, which, if found in the human cord, would be looked upon as a proliferation process. In some cases these nuclei were heaped together in masses, and were evidently pathological. There was also, about the ganglion cells, some pericellular round-cell infiltration, and this was more marked around a few cells which were almost entirely destroyed. The ganglion cells themselves were swollen. Some showed eccentric nuclei, and many of them stained poorly, while one or two showed distinct vacuolization. In one field a ganglion cell was partly destroyed by a recent hemorrhage. There were, however, a number of cells which appeared normal.

This process seemed to be fairly distinct in the lumbar and cervicular enlargements, but was not clearly demonstrated in the sections from the dorsal region.

The cellular infiltration of the horns was evidently not leucocytic, but presented the appearance of a connective tissue proliferation.

The interpretation of these findings must be taken with some caution, as it was impossible to make any comparison with the cord of a healthy lynx; but in comparison with the normal human cord the findings were undoubtedly pathological, and suggestive of at least a possible relation with the paralysis.

Although these are not the exact lesions found in poliomyelitis in the human animal, they are at least suggestive of the same process, since the infiltrating cells are of the lymphatic or connective tissue types. There is no acute inflammatory leucocytic infiltrate. Further observations will be made with the hope of throwing some light upon the etiology of this condition and that of poliomyelitis.

Respectfully submitted,

Herbert Fox,
Pathologist.

LIST OF ADDITIONS TO THE MENAGERIE DURING THE YEAR ENDING FEBRUARY 28TH, 1909.

1908.

March 2. 2 diamond rattlesnakes purchased.

" 3. 1 garter snake presented by John G. Janssen, Philadelphia.

" 5. 2 Massina quail, 2 Cuban trogons, 1 Wagler's oriole, 1 Bullock's troupial, 1 Scott's troupial and 1 hooded troupial purchased.

" 8. 1 opossum presented by Charles Wilson, Frazer, Pa.

" 9. 1 alligator presented by E. Deal, Philadelphia.

" 10. 4 western diamond rattlesnakes purchased.

" 12. 2 ring-tailed bassaris purchased.

" 14. 1 Bactrian camel born in the Gardens. 2 Pretre's tanagers, 2 bullfinches, 1 gray clarin, 2 banded toucans, 2 common cowbirds, 2 melodious finches, 4 Venezuela parrakeets, 2 boat-tailed grackles, 2 red-eyed cowbirds, 2 Bonaparte's tanagers, 2 black-headed grosbeaks, 1 curve-billed thrasher, 1 blue mocking bird, 2 Mexican house finches, 1 chestnut-capped tanager, 1 summer tanager, 2 dwarf finches and 2 garter snakes purchased.

" 15. 2 kinkajous purchased.

" 16. 1 raccoon presented by D. Goldstein, Philadelphia.

" 17. 1 opossum presented by A. C. Hamel, Philadelphia. 1 boat-tailed grackle purchased.

" 25. 1 augur buzzard, 1 carrion crow, 1 rook and 2 dwarf finches purchased.

" 27. 2 Campbell's monkeys purchased. 1 Indian antelope born in the Gardens. 2 alligators presented by Mrs. J. H. Weaver, Philadelphia.

" 28. 1 alligator presented by Master Albert Edward Taylor, Philadelphia.

" 31. 1 Livingstone's eland born in the Gardens.

April 3. 1 horned grebe presented by H. Walker Hand, Cape May, N. J. 1 Angora goat born in the Gardens.

" 4. 1 Canary finch presented by Percy Vaughn, Philadelphia. 1 alligator presented by Miss Dana, Philadelphia.

" 6. 2 hog deer born in the Gardens. 3 harlequin snakes, 1 ground rattlesnake, 6 black snakes, 3 chicken snakes, 1 corn snake, 1 garter snake, 1 keeled green snake, 17 hog-nosed snakes, 2 indigo snakes, 6 king snakes, 1 pine snake and 3 whip snakes purchased.

" 7. 1 European wolf received in exchange. 1 raccoon presented by William G. Haisch, Philadelphia. 3 ruddy sheldrakes purchased.

" 10. 4 mute swans purchased. 1 great horned owl presented by H. Walker Hand, Cape May, N. J.

" 11. 1 Indian antelope born in the Gardens.

" 16. 1 Brazilian tapir presented by Harry Nuding, Para, Brazil. 1 Fairies' garter snake and 3 whip snakes purchased.

" 17. 1 alligator presented by J. G. France, Philadelphia.

" 18. 2 young terrapin presented by O. Beecher, Jr., Savannah, Ga.

April 19. 2 Campbell's monkeys, 2 grivet monkeys, 4 black lemurs, 1 mongoose lemur, 2 rheas, 4 Indian porphyrios, 1 cutthroat finch, 3 spotted-sided finches, 1 European blackbird purchased. 1 brown mynah, 2 red-eared bulbuls, 2 white-crested jay thrushes, 1 jungle babbler, 2 hunting crows, 2 white-backed piping crows, 2 occipital blue pies, 2 Malabar mynahs, 1 Himalayan jay, 2 racket-tailed drongos, 1 dial bird, 1 ashy-headed barbet, 1 potto, 2 Senegal galagos, 2 slender loris, 2 white-eared bulbuls, 1 short-tailed pitta, 1 Indian crow, 2 crested black buntings, 2 Elwes' horned larks, 2 chestnut-headed buntings and 1 Malabar green bulbul purchased.

" 21. 2 Indian cobras, 1 hamadryas cobra, 1 Russell's viper, 6 Say's king snakes and 3 Gila monsters purchased.

" 22. 1 crab-eating raccoon, 1 aoudad and 2 Papuan cassowaries purchased.

" 23. 3 Fairies' garter snakes, 1 Marcy's garter snake, 1 keeled green snake, 2 Lindheimer's snakes and 3 whip snakes purchased.

" 24. 3 mongoose lemurs purchased.

" 25. 1 alligator presented by Raymond Walker, Philadelphia. 2 garter snakes presented by W. M. Knitter, Philadelphia. 2 garter snakes presented by Harry McManus, Philadelphia.

" 27. 1 garter snake presented by Albert Whitlock.

" 28. 1 Australian cassowary purchased. 1 gray fox presented by Atlantic Drier and Varnish Company, Philadelphia. 2 alligators presented by Mrs. B. Harrar, Philadelphia.

" 29. 1 hog deer born in the Gardens. 1 Baur's mud turtle presented by Captain W. F. Berg, Philadelphia.

" 30. 1 American crocodile presented by Fred Holzeffel, Philadelphia.

May 1. 3 Texas skunks, 3 yellow-bellied black snakes, 3 hog-nosed snakes, 1 Le Conte's snake, 3 Say's pine snakes, 1 whip snake, 12 common horned lizards purchased.

" 2. 1 red-chested whydah-bird, 3 pin-tailed whydah-birds, 1 red-shouldered whydah-bird, 2 crimson-faced waxbills and 2 scaly-fronted finches. 1 garter snake presented by R. Gardiner, Philadelphia. 1 snapping terrapin presented by Andrew Hauser, Philadelphia. 1 alligator presented by Master Wilmer Apple, Philadelphia.

" 4. 1 spotted terrapin presented by G. Gearhart, Philadelphia. 1 pine snake purchased.

" 6. 1 duckling presented by Col. Lewis M. Beitler, Philadelphia.

" 7. 1 Bactrian camel and 6 Texas skunks born in the Gardens.

" 8. 1 white-throated cebus presented by J. L. Montgomery, Bellefonte, Pa.

" 9. 1 canary presented by Master Arthur Ruth, Philadelphia. 1 western fox squirrel presented by Charles A. Valadier, Philadelphia.

" 11. 4 black snakes, 2 chicken snakes, 2 corn snakes, 4 common garter snakes, 2 Sackin's garter snakes, 5 harlequin snakes and 2 pine snakes presented.

" 12. 3 prairie dogs born in the Gardens. 2 Gila monsters presented by Dr. John Marshall, Philadelphia, 1 cariama crane, 1 blue-

fronted waxbill, 1 scaly-fronted finch, 2 Cape sparrows, 1 tawny eagle, 2 Kolb's vultures, 2 brown-faced love-birds, 2 naked-throated bell-birds, 1 Azara's agouti and 2 red-spotted frogs presented.

May 13. 1 elk (♂) purchased, 1 king snake exchanged.

" 14. 3 prairie dogs born in the Gardens.

" 15. 1 great blue heron presented by Mrs. Jos. Hilderbrandt, Philadelphia.

" 18. 9 prairie dogs born in the Gardens, 1 alligator presented by Mrs. Clara Yarrow, Philadelphia.

" 19. 1 herring gull presented by R. Ferris, Philadelphia, 6 kangaroo rats, 1 prairie falcon, 4 Holbrook's lizards and 8 Marcy's wave-lined lizards purchased.

" 20. 1 gray ichneumon presented.

" 21. 2 barn owls presented by Maurice Miller, Philadelphia.

" 22. 1 painted terrapin purchased.

" 23. 1 Japanese deer, and 5 Reeve's pheasants born in the Gardens, 1 screech owl presented by Ella May Stitcher, Philadelphia.

" 24. 2 necturus presented by H. A. Walters, Philadelphia.

" 25. 1 alligator presented by Master Elmer Hackett, Philadelphia.

" 26. 4 opossums and 1 golden pheasant born in the Gardens, 1 South African ostrich purchased.

" 27. 6 wild turkeys born in the Garden.

" 30. 2 black apes, 1 Abyssinian ground hornbill, 1 crowned hornbill, 2 satin bower birds, 1 bronze-winged fruit pigeon, 2 yellow sparrows and 2 bare-eyed cockatoos purchased, 1 bald eagle presented by Dr. Joseph Kalbfus, Harrisburg, Pa.

June 2. 6 chestnut-eared finches, and 3 red-tailed finches.

" 4. 1 black duck born in the Gardens.

" 5. 2 white-bearded gnus (♂) and (♀), 2 great gray kangaroos (♂) and (♀), 1 red kangaroo (♂), 2 axis deer (♂) and (♀), 1 large spotted civet, 1 black-headed ibis, 1 larger spotted eagle, 1 African hawk and 1 spotted eagle owl purchased, 1 gray-headed love-bird presented by John Paxson, Philadelphia.

" 6. 1 DeKay's snake presented by F. W. Cressey, Philadelphia, 2 water moccasins and 1 copperhead presented by Dr. Joseph McFarland, Philadelphia, 2 diamond rattlesnakes, 2 ground rattlesnakes, 1 water moccasin, 4 black snakes, 8 common garter snakes, 1 glass snake, 1 scarlet snake, and 1 banded water snake purchased.

" 8. 3 water moccasins, 1 black snake, 1 indigo snake, 1 king snake, 1 Sacken's garter snake and 1 whip snake purchased.

" 9. 1 black snake presented by Miss Russell Tucker, Philadelphia. 1 California king snake, 10 elegant garter snakes, 1 Santa Cruz garter snake, 1 red-sided garter snake purchased.

" 10. 1 black snake and 1 hog-nosed snake presented by Joseph De Buno, Atco, N. J. 1 black snake, 1 striped water snake, 1 garter snake and 1 hog-nosed snake presented by Dr. Henry Tucker, Philadelphia.

" 11. 1 opossum and 1 box tortoise presented by Peter Kuhn, Philadelphia.

June 12. 1 alligator presented by Miss Edith Montgomery, Philadelphia. 1 opossum and 3 young presented by Frank McMahan, Vineland, N. J. 2 alligators, 1 pine snake, 1 water snake and 2 horned lizards presented by Dr. Henry Tucker, Philadelphia.

" 13. 54 American green lizards presented by The Pennsylvania Society for the Prevention of Cruelty to Animals. 2 common water snakes presented by C. E. Ritter, Philadelphia.

" 14. 2 Muhlenberg's terrapin, presented by H. A. Walters, Philadelphia.

" 15. 1 red deer born in the Gardens.

" 17. 1 gray parrot, 2 Barnard's parrakeets, 2 Pennant's parrakeets, 2 Swainson's lorikeets and 2 black-capped warblers purchased. 3 mallard ducks born in the Gardens, 1 white-fronted amazon presented by Mrs. Condon, Philadelphia.

" 19. 1 blue-fronted amazon presented by Herbert Leslie, Philadelphia.

" 23. 1 fallow deer born in the Gardens. 2 gray squirrels presented by Charles A. Grove, Philadelphia. 1 alligator presented by Mrs. Charles Henderson, Philadelphia.

" 25. 1 chimpanzee (♂) purchased.

" 26. 4 common iguanos purchased.

" 28. 1 garter snake and 1 water snake presented by D. H. March, Philadelphia.

" 29. 4 white-nosed coatis born in the Gardens. 1 pale-headed tree boa, 2 Cuban black snakes, 1 long-nosed sand snake, 1 diamond rattlesnake, 4 chicken snakes, 3 common garter snakes, 4 king snakes, 3 hog-nosed snakes, 3 indigo snakes, 2 keeled green snakes, 3 pine snakes, 6 rainbow snakes, 1 cyclops water snake and 6 whip snakes purchased.

" 30. 1 raccoon presented by Perry A. Wiley, Newton, Pa.

July 1. 3 Texas skunks and 4 mute swans born in the Gardens. 1 golden-naped amazon presented by E. S. Kline, Harrisburg, Pa.

" 2. 1 alligator presented by F. J. Loesche, Philadelphia. 5 Marcy's garter snakes, 1 Texas glauconia, 4 Say's king snakes, 4 Say's pine snakes, 3 Western sand snakes, 8 whip snakes, 8 collared lizards and 8 Holbrook's lizards purchased.

" 3. 2 Berlandier's tortoises presented by Julius Hurter, St. Louis, Mo.

" 6. 5 black ducks and 23 garter snakes born in the Gardens.

" 8. 5 summer ducks born in the Gardens. 1 garter snake presented by Dr. Henry Tucker, Philadelphia.

" 9. 1 Himalayan thar born in the Gardens.

" 10. 1 painted terrapin presented by Charles H. Graham, Philadelphia.

" 13. 1 Sonoran heloderm purchased. 1 American crow presented by Miss Gladys Anthony, Philadelphia.

" 16. 2 summer ducks born in the Gardens. 2 European land tortoises presented by Miss Virginia Smith, Philadelphia.

" 17. 1 prairie wolf presented by W. A. McMahon, Philadelphia. 1 badger presented by Misses Mary and Edith Hoffman, Marietta, Pa. 1 weeper cebus presented by F. H. Gibbs, Spring Lake, N. J.

" 24. 1 white-fronted amazon presented by Mrs. F. B. Mangle, Philadelphia.

July 25. 1 pig-tailed monkey born in the Gardens.
" 27. 2 burrowing owls, 2 snapping turtles, 3 painted box tortoises, 1 Bell's painted terrapin, 1 bullfrog and 2 mud turtles purchased.
" 28. 1 hog-nosed snake presented by Dr. Henry Tucker, Philadelphia.
" 31. 1 brown cebus and 5 banded rattlesnakes purchased. 1 raccoon presented by Horace H. Francine, Ambler, Pa.
August 1. 1 box tortoise presented by Charles Marshall, Philadelphia.
" 2. 2 barn owls presented by Clifford Washington, Tacony, Pa.
" 4. 1 gray squirrel presented by Mrs. C. B. Finckel, Philadelphia.
" 6. 1 red kangaroo (♂) purchased.
" 10. 2 agoutis (hybrid hairy-rumped and azaras) born in the Gardens.
" 15. 2 Yakutat bears (♂ and ♀) purchased.
" 16. 1 American elk born in the Gardens.
" 18. 1 screech owl presented by Master Robert Laing, Colwyn, Pa.
" 20. 1 alligator presented by Mrs. E. M. Rice, Philadelphia.
" 25. 4 Muhlenberg's terrapins presented by Master John Dunhour, Philadelphia.
" 26. 12 Marcy's garter snakes born in the Gardens.
" 29. 1 alligator presented by Miss Jennie Cain, Darby, Pa.
" 31. 1 Emory's snake presented by Mrs. F. G. Cory, Philadelphia. 1 ring-necked snake presented by Charles S. Bird, Philadelphia. 1 milk snake purchased.
Sept. 4. 2 Sebastopol geese received in exchange.
" 5. 18 Fairies' garter snakes born in the Gardens. 2 box tortoises presented by I. A. Jaquet, Philadelphia.
" 11. 1 reddish macaque, 1 Javan cat, 2 common iguanas and 2 spiny-comb lizards purchased.
" 13. 1 opossom presented by Thomas Bankhead, Philadelphia. 1 night heron presented by David White, Philadelphia.
" 15 2 Nile crocodiles, 1 broad-fronted crocodile, 1 eyed lizard and 1 carpet snake purchased. 1 milk snake presented by H. K. Thomas, Philadelphia
" 16. 3 black snakes, 1 chicken snake, 3 garter snakes, 2 king snakes, 2 keeled green snakes, 2 hog-nosed snakes, 2 indigo snakes, 1 pine snake, 1 long-nosed sand snake, 1 banded water snake, 3 whip snakes, 2 harlequin snakes and 7 ground rattlesnakes purchased.
" 17. 1 banded rattlesnake and 1 mountain black snake presented by Dr. Henry Tucker, Philadelphia.
" 18. 1 Javan adjutant purchased.
" 20. 1 diamond-backed terrapin and 1 spotted terrapin presented by E. R. Durborow, Philadelphia.
" 22. 2 suricates purchased. 1 lion born in the Gardens. 1 common opossum presented by Masters William S., Jr., and Roger W. Hallowell, Penllyn, Pa. 2 alligators presented by J. O. Cable, Philadelphia.
" 23. 1 reddish milk snake presented by Dr. Henry Tucker, Philadelphia.
" 26. 1 American robin and 2 canary birds presented by Master Percy Vaughn, Philadelphia. 1 banded rattlesnake, 2 copperhead snakes, 1 black snake, 3 common garter snakes, 2 ring-necked

snakes and 1 common water snake purchased. 1 banded rattlesnake, 3 common garter snakes and 1 smooth green snake presented by Dr. Henry Tucker, Philadelphia.

Sept. 29. 1 raccoon presented by M. B. Lawrie, Philadelphia.

" 30. 2 diamond rattlesnakes, 1 harlequin snake, 1 corn snake, 1 garter snake, 1 king snake, 6 hog-nosed snakes, 8 rainbow snakes, 1 banded water snake and 1 whip snake purchased.

Oct. 2. 1 banded rattlesnake and 1 mountain black snake presented by Dr. Henry Tucker, Philadelphia.

" 3. 1 raccoon presented by Miss Laurie V. Grove, Philadelphia. 1 horned lizard presented by Herman C. Frismuth, Philadelphia.

" 4. 1 pied-billed grebe presented by J. Fred Weaver, Philadelphia.

" 6. 3 prairie wolves purchased.

" 7. 1 Indian antelope born in the Gardens.

" 8. 1 Leadbeater's cockatoo presented by D. G. Dery, Catasauqua, Pa.

" 9. 1 gray wolf presented by H. E. Mooney, Moorcroft, Wyo.

" 10. 1 black spider monkey presented by Dr. C. S. Stafford, Tampa, Fla. 1 white-throated cebus presented by Ellis Ewell, Philadelphia.

" 12. 1 white-fronted amazon presented by M ss Jean McIntosh, Philadelphia.

" 14. 2 jaguars purchased.

" 15. 1 screech owl presented by Master Earl De Witt Handy, Philadelphia.

" 16. 1 weaver presented by P. F. Harpel, Philadelphia.

" 17. 1 box tortoise presented by Charles Marshall, Philadelphia.

" 18. 2 wave-lined lizards presented by H. A. Walters, Philadelphia.

" 19. 4 alligators presented by W. B. Chamberlin, Torresdale, Pa.

" 21. 1 bald eagle purchased.

" 24. 1 Indian antelope born in the Gardens. 4 black snakes, 2 garter snakes, 1 pine snake, 1 slender snake, and 1 banded water snake purchased.

" 26. 1 Canada porcupine presented by Walter R. Cope, Sunbury, Pa. 1 DeKay's snake presented by B. F. Saurman, Philadelphia. 1 alligator presented by James Mintzer, Shrewsbury, Pa.

" 29. 1 box tortoise presented by Mrs. Clayton Platt, Philadelphia.

" 31. 2 Swainson's lorikeets, 2 Pennant's parrakeets purchased. 1 banded rattlesnake presented by J. Fletcher Sheet, Beverly, N. J.

Nov. 5. 1 golden-crowned kinglet presented by Miss Alice M. Fletcher, Philadelphia.

" 8. 4 Java sparrows, 2 cutthroat finches, 1 red-beaked weaver and 1 bishop weaver presented by Miss Louise B. A. Schmidheiser, Philadelphia. 1 chestnut-eared finch, 1 crimson-eared waxbill, 3 ultramarine weavers, 1 red-headed weaver and 1 gray-headed lovebird presented by Miss Elizabeth A. Schmidheiser, Philadelphia. 1 painted terrapin presented by Frank Laws, Philadelphia. 1 alligator presented by Clarence Miller, Philadelphia.

Nov. 13. 1 green monkey, 1 mona monkey, 1 maroon monkey purchased. 1 Western diamond rattlesnake, 1 Say's rattlesnake, 1 yellow-bellied black snake, 3 Marcy's garter snakes, 1 Say's pine snake, 2 whip snakes and 1 spiny lizard purchased.
" 18. 2 common skunks purchased, 8 starlings presented.
" 21. 3 Barbary turtle doves presented by Masters Joseph and Edward Fronefield, Wayne, Pa., 3 water moccasins and 1 garter snake purchased.
" 22. 1 raccoon caught at entrance to the Gardens.
" 25. 1 weeper cebus presented by Mrs. Frank Bruner, Philadelphia.
" 26. 1 red-tailed buzzard presented by Rev. F. S. Ballentine, Lower Providence, Pa.
Dec. 2. 1 red-shouldered buzzard purchased.
" 3. 1 opossum presented by Charles Grafly, Philadelphia.
" 4. 1 opossum presented by William Carman, Philadelphia.
" 9. 1 Levaillant's amazon presented by Mrs. Hampton L. Carson, Philadelphia.
" 19. 1 red-tailed buzzard presented by Samuel Bright, Goshen, N. J.
" 24. 1 wild cat presented by The Bay Fish Company, Philadelphia.
" 25. 1 barred owl presented by Wesley Phifer, Philadelphia.

1909.

Jan. 7. 2 hamadryas baboons, 2 quail, 1 boaconstrictor purchased.
" 10. 1 hog deer born in the Gardens.
" 13. 1 weeper cebus presented by Mrs. C. A. Schroeder, Jersey City, N. J.
" 15. 2 opossums presented by J. W. Keller, Philadelphia, 6 water snakes purchased.
" 21. 3 red foxes purchased.
" 22. 9 garter snakes, 4 water snakes and 1 DeKay's snake purchased.
" 31. 2 black bears born in the Gardens.
Feb. 6. 1 pig-tailed macaque born in the Gardens.
" 7. 1 cinereus waxbill and 1 white finch presented by the Misses Louisa and Elizabeth Schmidheiser, Philadelphia.
" 11. 3 wild cats presented by Dr. Norton Downs, Three Tuns, Pa.
" 16. 1 white-crested cockatoo presented by Mrs. J. Van Dusen, Philadelphia.
" 17. 2 European tree sparrows purchased.
" 18. 4 rosehill parrakeets, 2 European skylarks, 2 goldfinches, 1 common bullfinch, 2 yellow-rumped seedeaters, 2 black-headed finches and 6 amadavine finches purchased.
" 21. 1 alligator presented by Chris. Reil, Philadelphia.
" 23. 1 Angora goat presented by Mrs. F. E. P. Lynde, Philadelphia.
" 24. 1 flying squirrel presented by Marple C. Dager, Philadelphia.
" 25. 1 alligator presented by Samuel Hudson, Philadelphia.
" 26. 1 Jardine's parrot purchased.